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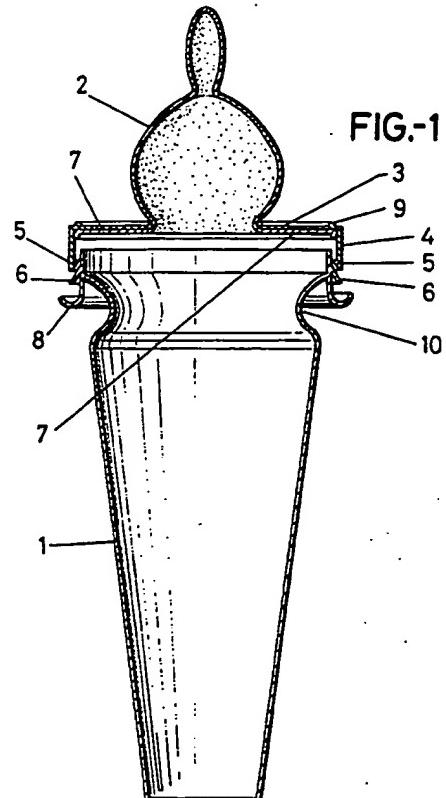
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28014 Madrid (ES)**(54) DISPOSABLE FEEDING BOTTLE**

(57) The feeding bottle basically comprises two units, one being the actual container body and the other the teat which may in turn comprise an end teat body (2) and a collar (3) couplable to the mouth of the body (1) to achieve an impervious fixing and sealing of the teat (2) to the mouth of the body (1) of the feeding bottle. Coupling between the collar (3) and the body (1) takes place by means of a perimetric rib (5) provided on the bottom inner edge of the perimetric sleeve (4) of the collar (3) which is locked, upon being axially displaced, on the bottom edge of a deformable wing or sheets (6) provided divergently on the side surface of the body (1) of the feeding bottle, and therefore when the collar and body of the feeding bottle are coupled, uncoupling cannot be achieved, and hence the feeding bottle cannot be reused. The unit stands as a feeding bottle to be used once only for it must be disposed of upon its first and only use because it cannot be newly opened.

**EP 0 819 417 A1**

**Description****OBJECT OF THE INVENTION**

The invention relates to a single-use and hence disposable feeding bottle made in such a way that once the respective collar fixing the teat over the respective mouth of the container or body of the feeding bottle is coupled, it cannot be opened unless it is broken. The seal thus achieved upon the two essential bodies (collar and feeding bottle body) being coupled is leak-proof.

The object of the invention is to provide a feeding bottle with which hygienic conditions are enhanced with respect to conventional feeding bottles.

**BACKGROUND OF THE INVENTION**

A type of feeding bottle currently exists which comprises a glass body, a teat and a bush screwed onto the mouth of the body mentioned in the first place, in order to fix the teat imperviously, thereby to prevent the liquid food contained in the feeding bottle from leaking when the baby has it.

A feeding bottle of this kind is evidently designed to be sterilised every time it is used, although what is usually done in practice is to more or less thoroughly wash all the parts of the feeding bottle, which means that harmful germs, if any, will not be eliminated, and thus hygienic conditions leave much to be desired.

**DESCRIPTION OF THE INVENTION**

The feeding bottle subject hereof is a disposable or single-use feeding bottle devised to solve the drawbacks aforesaid, for the feeding bottle cannot be opened once the teat and the container, or where feeding bottles comprise three parts, the collar holding the teat and the respective body of the feeding bottle, have been sealed or coupled.

Hygienic conditions are therefore obtained because the constituent elements, namely the teat and container, teat and collar on the one hand, and body of the feeding bottle on the other, are sold already sterilised and in an imperviously sealed bag, which means that the bag will be opened when the feeding bottle is to be used, and the teat is not even touched for only the collar will be handled, externally, to be coupled over the mouth of the container standing as the feeding bottle, once the latter is full of the respective liquid or food.

Coupling between the teat and the container or, in feeding bottles comprising three bodies, between the collar and the body of the feeding bottle, takes place by grooving and tonguing or by any other conventional means, including screwing, provided that whatever sealing system is used does not allow the two essential elements or constituents, namely the collar and the body, to be later uncoupled, unless they are duly broken.

Consequently, coupling must be such as to ensure

that once the feeding bottle has been used, it must needs be disposed of, for it can by no means be newly opened, unless it is broken as aforesaid.

One way of providing the seal can be by using deformable sheets projecting laterally and divergently from the side surface of the mouth of the container body which, when an inner perimetric rib provided on the coupling collar extends beyond the same, upon the collar being axially displaced by pressure, make it impossible to newly remove said collar and therefore the teat.

There is no doubt that the collar may be rigid and said deformable sheets elastic, or vice versa, so that in either case coupling or sealing may be supplemented with a perimetric wing preventing the seal proper from being tampered with.

**DESCRIPTION OF THE DRAWINGS**

In order to provide a fuller description and contribute to the complete understanding of the characteristics of this invention, a set of drawings is attached to the specification which, while purely illustrative and not fully comprehensive, shows the following:

Figure 1.- Is a side elevation sectional view along a vertical plane of the disposable feeding bottle subject of the invention, with the unit made up of the coupling collar and the respective teat uncoupled with respect to the body of the feeding bottle, albeit facing each other before taking up the coupled or sealed position.

Figure 2.- Is a close view of an alternative manner of coupling the teat fixing collar to the body of the feeding bottle.

Figure 3.- Is a different embodiment of the feeding bottle, made of two parts, namely the teat and container, both of which parts are provided with the retaining and leak-proof sealing device of the feeding bottle.

**PREFERRED EMBODIMENT OF THE INVENTION**

With reference to figures 1 and 2 above, the feeding bottle of the invention comprises three bodies in this embodiment, namely a first body (1), a second body or teat (2) and a collar (3) for fixing the teat over the very mouth of the body (1) of the feeding bottle, thereby for such fixing to bring about a leak-proof fit upon sealing taking place.

The collar (3) has a perimetric sleeve (4) through which coupling or fixing actually takes place, which sleeve (4) is provided with a bottom inner circumferential rib (5), whereas the side surface of the mouth of the body (1) of the feeding bottle has a divergent, deformable wing or wing sections (6) that will in a sheet-like manner define the collar retaining means (4) when the

collar is coupled by axial displacement over the mouth of the container body (1) and the bottom inner rib (5) of the collar extends beyond the bottom edge of the said sheets or perimetric wing (6) of the mouth of the body (1).

Since the teat (2) extends into a perimetric wing (7) lying beneath the top horizontal surface of the collar (3), when the collar is coupled over the mouth of the body (1), the said teat (2) can be imperviously fixed, the foregoing in order that because of the configuration of the aforesaid seal or coupling, once it is made, it may under no circumstances be uncoupled or opened unless the collar or the actual body (1) of the feeding bottle is broken.

The coupling system may evidently be any other, provided that when the same is made, it is absolutely impossible to newly uncouple the same. Thus, figure 2 shows how coupling between a feeding bottle body (1) and the sleeve (4') of a collar takes place by means of respective complementary projections (5'), or in other words by a snap fit, although screwing might indeed be used, provided that the system used prevents a new opening.

Furthermore, the side surface of the container body (1) has been provided, beneath the coupling means, to have a wing (8) preventing the seal from being tampered with once it has been made, and figure 2 shows a wing (8') which prevents the complementary coupling ribs (5') provided on the body (1) of the feeding bottle and on the sleeve (4') of the teat fixing collar, from being tampered with.

The top surface of the collar (3) is provided close to its periphery with a perimetric rib (9) stiffening the collar (3) as such, which in actual fact defines a recess in which the free edge of the body of the feeding bottle is inserted, the wing of the teat being pressed between both bodies, thereby to increase its imperviousness, whereas the body of the feeding bottle (1) is provided close to its mouth with a concave deformation (10) which, together with the said top horizontal surface of the collar (3) and wing (7) of the teat (2), allows the required pressing to be made to provide a manual seal, avoiding contact with the end or perimetric edge of the wing (7) of the teat (2), thereby ensuring an absolute hygiene of the feeding bottle, since the latter will be sold sterilised in imperviously sealed bags that will be opened when the actual feeding bottle is to be used.

As was also explained hereinbefore, both the coupling collar (3) and the body (1) of the feeding bottle, can be made of suitable materials to achieve a perfect adaptation upon said parts being coupled, and thus either the collar (2) may be rigid and the mouth of the body of the feeding bottle (1) deformable, or vice versa.

Figure 3 shows an embodiment in which there are only two parts, the container or main body of the feeding bottle (1) and the teat (2). The teat (2) is therefore provided with a threaded portion (11) and a retaining portion (12) that correspond with similar portions provided

on the neck of the container (1). The first of these portions, to wit the threaded portion (11-13), serves to have the teat body penetrate the neck of the container, whereas the portion (12-14) corresponds with the irreversible sealing portion, which is designed to make it easier for both bodies to penetrate each other by means of the deformation of the rims (12) relative to the projections (14) and to have these bodies jam in the unscrewing operation to prevent removal. If an attempt is made at forcing the system, the bodies 11 and 12 are joined by a recessed connecting portion (15) which will be severed, if forced, rendering the teat useless.

This same effect can be achieved with an endless thread (11) in which, after the thread has been penetrated, the same leads to a position in which the teat turns idly and cannot be newly inserted in the thread body, thereby preventing the teat from being removed.

#### Claims

1. A disposable feeding bottle, which comprises the essential components of a conventional feeding bottle, namely the body (1) of the feeding bottle, the teat (2), which may both be joined or not by a collar (3) that fixes the teat, by coupling the collar over the mouth of the body (1) of the feeding bottle, essentially characterised in that the coupling means (5) and (6) provided on the collar (3) and the mouth of the body (1) of the feeding bottle, comprise elements or parts which on being interconnected prevent their being uncoupled unless the components are broken.
2. A disposable feeding bottle, as in claim 1, characterised in that the coupling means (5) and (6) comprise an inner annular rib provided on the bottom edge of a sleeve (4) with which the collar (3) fixing the teat (2) is purposely provided, and a deformable wing or sheets projecting downwards and divergently from the side surface of the mouth of the body (1) of the feeding bottle, the rib (5) being locked under the bottom edge of the deformable wing or sheets (6), once the rib (5) has extended beyond the bottom edge of the diverging wing (6).
3. A disposable feeding bottle, as in the preceding claims, characterised in that the collar (3) fixing the teat (2) has a horizontal annular surface that overlies an inner perimetric wing (7) of the teat (2), the surface of both elements being manually pushed in order to couple the unit made up of the collar (3) and teat (2) over the mouth of the container body (1) of the feeding bottle.
4. A disposable feeding bottle, as in the preceding claims, characterised in that an external wing (8) projected divergently upwards is provided beneath the coupling means of the body (1) of the feeding

bottle to prevent the coupling made between the perimetric rib (5) of the collar (3) and the perimetric wing or sheets (6) of the mouth of the body (1) of the feeding bottle from being tampered with.

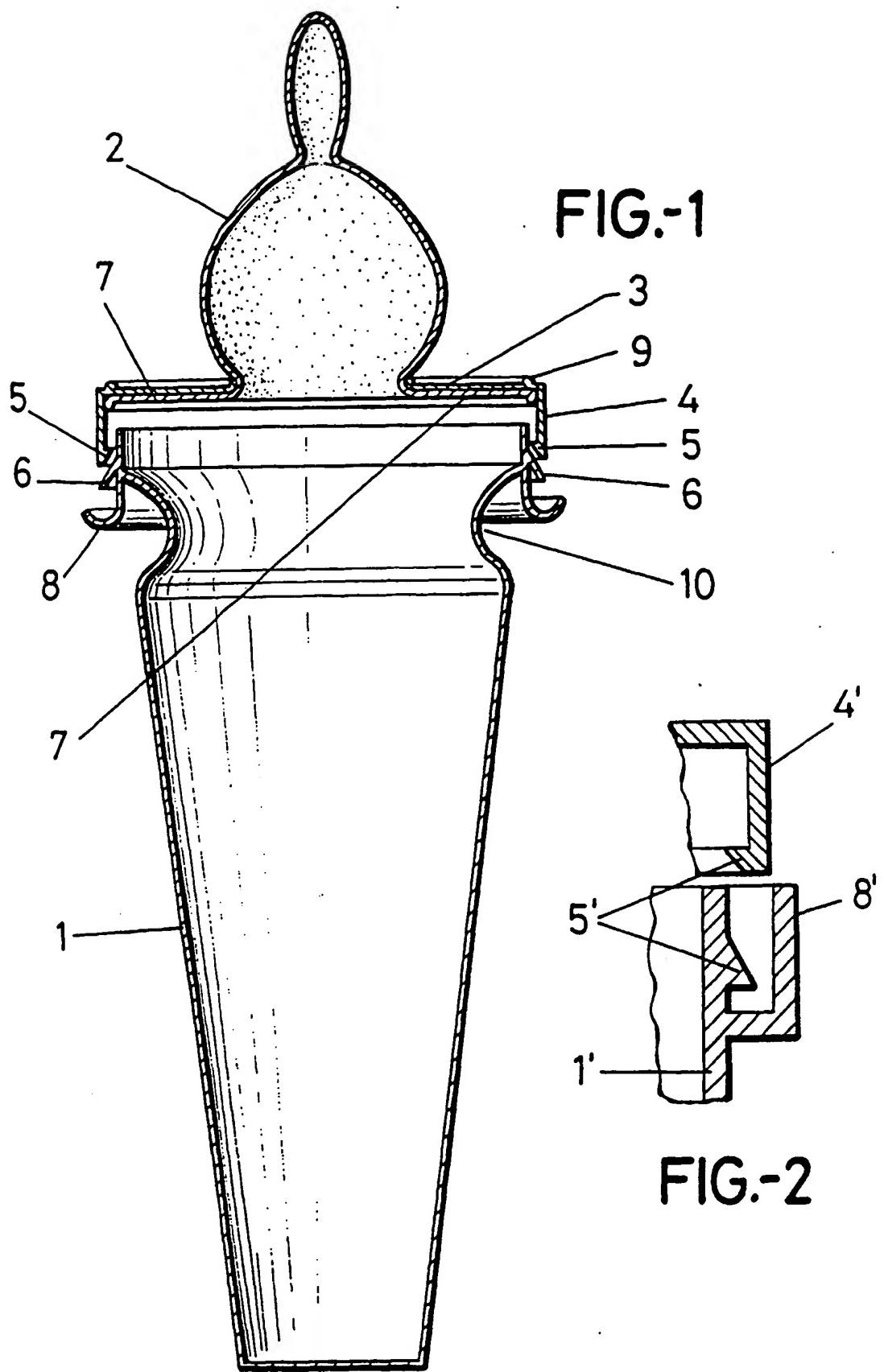
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5. A disposable feeding bottle, as in claim 1, characterised in that the coupling means (5') of the collar and the body of the feeding bottle actually comprise respective snap-fitting complementary ribs which are complemented with an outer perimetric wing (8') that prevents such complementary coupling means (5') from being tampered with.
6. A disposable feeding bottle, as in claim 1, characterised in that the collar (3) is provided on its top outer contour with a perimetric hollow rib (9) arranged to meet the top free edge of the body of the feeding bottle in order for the wing of the teat to be trapped between the two and its imperviousness to be thereby enhanced. 10 15 20
7. A disposable feeding bottle, as in claim 1, characterised in that the same is only provided with the main body of the feeding bottle (1) and the teat (2), each of which is provided with a threaded connecting system and a rim system between both bodies (12-14) to make it easier for both bodies to be coupled when in the pressed position, and to prevent uncoupling if attempted. 25 30
8. A disposable feeding bottle, as in claims 1 and 7, characterised in that the both portions of the teat in which the threaded portion and the irreversible connecting portion are arranged are separated by a recessed area (15) which will be severed if the teat is forced to be detached from the main body (1). 35
9. A disposable feeding bottle, as in claims 1, 7 and 8, characterised in that the threaded portion of the teat is coupled to an endless threaded portion of the container (1) which shall have the said teat turn idly and already prevent the backward movement of the teat if an attempt is made at detaching it. 40

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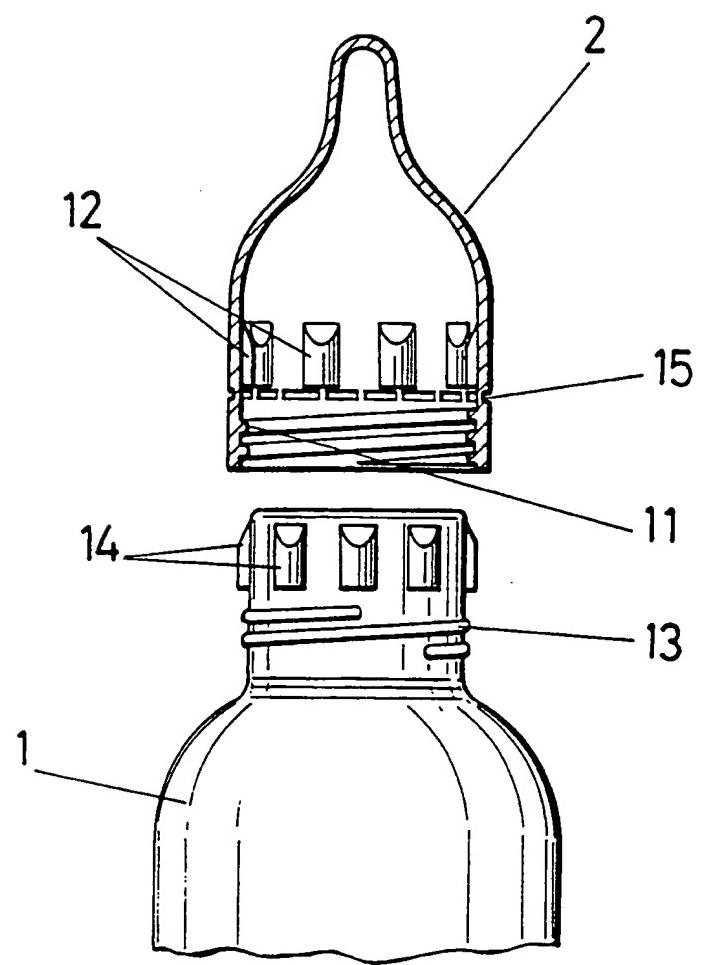


FIG.-3

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/ES 96/00212

## A. CLASSIFICATION OF SUBJECT MATTER

**IPC6: A61J9/00 B65D47/02**

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

**IPC6: A61J B65D**

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	FR 2134720 A (MORASH) 08 December 1972 (08.12.72) See figures 3,5	1,3 2
A	EP 0300786 A (AVENT MEDICAL LTD) 25 January 1989 (25.01.89), See figures 1,2,5	1-9
A	EP 0585818 A (DART IND INC) 09 March 1994 (09.03.94) See figures	7-9

 Further documents are listed in the continuation of Box C. See patent family annex.

- \* Special categories of cited documents:
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- "&" document member of the same patent family

Date of the actual completion of the international search <b>12 February 1997 (12.02.97)</b>	Date of mailing of the international search report <b>27 February 1997 (27.02.97)</b>
Name and mailing address of the ISA/ <b>S.P.T.O</b> Facsimile No.	Authorized officer Telephone No.